

Preliminary Amendment

U.S. National Stage of PCT/CN2004/001494

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Amendments to the Specification

On page 1, please amend the title as follows:

A PACKET SERVICE SCHEDULING UNIT AND A METHOD THEREOF

On page 2,

Please amend the first complete paragraph, beginning on line 3, as indicated below:

Figure 2 shows another L2 VPN-service scheduling method of prior art, which, in comparison with the method shown in Figure 1, further includes a data exchanging plane to perform a data exchange between ~~units of processing data services~~ data service access processing units, however, the units connected with the cross-connecting unit are still ~~the data service processing unit~~ the data service access processing units.

Please amend the sixth complete paragraph, beginning on line 22, as indicated below:

The present invention also provides a packet service scheduling method which can achieve a "1+1" protection or a "1:1" protection for the service scheduling unit.

Please amend the seventh complete paragraph, beginning on line 24 (paragraph ends on page 3), as indicated below:

An embodiment of the present invention aims to provide a ~~packet-service~~ scheduling unit, which may establish a data channel connection with one end of a cross-connecting unit in a digital communication system, and perform a service scheduling for packet services of a data service access processing unit and a line unit that establish a data channel connection with the other end of the cross-connecting unit, comprising: a de-mapping

module, for receiving a virtual container or virtual container group from the cross-connecting unit in the system, and to extract an encapsulated data stream from the virtual container or the virtual container group for completing separation of the encapsulated data stream therefrom; a decapsulating module, for decapsulating the encapsulated data stream from the de-mapping module into an independent data frame; a packet scheduling module, provided with multiple output ports, to receive the decapsulated data frame from the decapsulating module, read a label from the data frame, determine a corresponding output port based upon the label, and forward the data frame via the output port; an encapsulating module, for receiving the data frame forwarded by the packet scheduling module and to encapsulate the data frame at the Data Link Layer; and a mapping module, for receiving the encapsulated data frame and to map the data frame to the virtual container or the virtual container group of the cross-connecting unit.

On page 3, please amend the first complete paragraph, beginning on line 11, as indicated below:

The ~~packet~~-service scheduling unit may further comprise a fault alarming module for monitoring the ~~packet~~-service scheduling unit and report an abnormal status to the cross-connecting unit.

On page 6, please amend the second complete paragraph, beginning on line 6, as indicated below:

According to the embodiments of the present invention, there is fourthly provided a ~~packet~~-service scheduling method that may use individual service scheduling units to perform a service scheduling for packet services from a line unit and a data service access processing unit in a digital communication system, including the steps of:

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Please amend the penultimate complete paragraph, beginning on line 26, as indicated below:

Figure 3 is a block diagram of an internal structure of a ~~packet~~-service scheduling unit according to an embodiment of the present invention;

Please amend the last complete paragraph, beginning on line 29, as indicated below:

Figure 4 is a block diagram of an internal structure of a mapping/de-mapping module in the ~~packet~~ service scheduling unit according to the embodiment of the present invention;

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Please amend the first complete paragraph, beginning on line 2, as indicated below:

Figure 5 is a block diagram of an internal structure of an encapsulating/decapsulating module in the ~~packet~~-service scheduling unit according to the embodiment of the present invention;

Please amend the fifth complete paragraph, beginning on line 12, as indicated below:

As shown in Figure 3, a service scheduling unit according to an embodiment of the present invention establishes a data channel connection with one end of a cross-connecting unit in a digital communication system which is typically of [[SDH]]TDM (such as SDH/SONET, Synchronous Optical Network) or another type of transmission unit of OTN, and performs service scheduling for packet services of a data service access processing unit and a line unit which establish a data channel connection with the other end of the cross-connecting unit, and the service scheduling unit comprises the following modules.

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Please amend the last complete paragraph, beginning on line 13, as indicated below:

The mapping/de-mapping module is used to mainly load a data frame to a virtual container or virtual container group or extract a data frame from the virtual container or the virtual container group. Virtual container group refers to several virtual containers bound together through an adjacent or virtual concatenation. According to the embodiment of the present invention, the mapping/de-mapping module of the service scheduling unit supports virtual containers or virtual container group with various granularities, so as to perform scheduling between services of the virtual containers or the virtual container group with different granularities. For example, there are, but not limited to, VC12, VC3, VC4 (VCn: Virtual Container n, a container of level n) for the [[SDH]]TDM (such as SDH/SONET), and there are, but not limited to, VT1.5 (Virtual Tributary 1.5, a virtual tributary of level 1.5), STS-1, STS-3C (STS-n: Synchronous Transport Signal level n) for a SONET, etc. Figure 4 is a block diagram of an internal structure of a mapping/de-mapping module according to the embodiment of the present invention, and the mapping/de-mapping module comprises a selection module, and also comprises a VC4 mapping/de-mapping and virtual concatenation processing circuit, a TU3 (Tributary Unit 3) pointer processing circuit, a VC3 mapping/de-mapping and virtual concatenation processing circuit, a TU12 (Tributary Unit 12) pointer processing circuit and a VC 12 mapping/de-mapping and virtual concatenation processing circuit connected sequentially.

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Please amend the third complete paragraph, beginning on line 10, as indicated below:

Figure [[7]]8 is a schematic diagram of another packet service scheduling method according to an embodiment of the present invention. As shown in the figure, a locally-accessing data service can be forwarded from a data service access processing unit to a service scheduling unit directly.

On page 14, please amend line 10 as follows, "Figure [[7]]8 is..."